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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,499

04/17/2006

Matti Ravaska

18901

4209

23389

7590

11/20/2007

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EXAMINER

CALANDRA, ANTHONY J

ART UNIT

PAPER NUMBER

4128

MAIL DATE

DELIVERY MODE

11/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,499	Applicant(s) RAVASKA, MATTI	
	Examiner Anthony J. Calandra	Art Unit 4128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/29/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Office Action

1. The communication dated 6/23/2005 has been entered and fully considered.
2. Claims 1-20 are pending.

Claim Objections

3. Claim 17 is objected to because of the following informalities: Should be a comma after 'and if desired'. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. The term "effective in removing" in claims 1, 17, and 20 is a relative term which renders the claim indefinite. The term "effective in removing " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear of how much or what percentages of the extractives have to be removed from the pulp for said wood cooking aid to be considered effective. Claims 2-20 are dependant upon claim 1. Claims 18-19 are dependant on claim 17.

7. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP §

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2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 2 recites the broad recitation less than 10% unsaponifiable material, and the claim also recites less than 5% unsaponifiable material which is the narrower statement of the range/limitation.

In the present instance, claim 3 recites the broad recitation of 20 to 98% rosin acids and 70 to 2% fatty acids, and the claim also recites 50 to 70% rosin acids and 45 to 25% fatty acids which is the narrower statement of the range/limitation.

8. Regarding claim 6, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

9. Regarding claims 4 and 20, the phrase "preferably" renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

10. Claim 20 provides for the "use" of wood cooking aid, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is

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intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 20 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-9, 13, 14-16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by *Composition of American Distilled Tall Oils* by MAGEE et al, henceforth referred to as MAGEE et al.

As for claim 1, the use of a mixture of fatty acids and rosin acids forming a cooking aid for removing extractives from pulp is an intended use. MAGEE et al. teaches a distilled tall oil which is a mixture of fatty acids and resin acids (resin acids are rosin acids) and which have less than 5% unsaponifiabiles (*a mixture of fatty acids and rosin acids and/or salts thereof in a ratio which is effective in removing the extractives in pulp production and that said fatty acid rosin acid mixture contains less than about 15 % unsaponifiable material*. [see e.g. Table 1 Tall oil sample Hxs has 29% fatty acids, 67% Resin acids and 4.1% neutrals which are unsaponifiabiles]).

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The mixture of fatty acids and rosin acids falls within the preferred range of the applicants ranges and thus would be effective in removing extractives.

As for claim 2, tall oil sample Hxs of MAGEE et al. teaches a neutrals content of less than 5% which anticipates the preferred instant claim [see e.g. table 1].

As for claim 3, tall oil sample Hxs of MAGEE et al. teaches 29% fatty acids, 67% Resin acids which falls within the preferred instant ranges of the claim [see e.g. table 2].

As for claim 4, the tall oil sample Hxs of MAGEE et al. has resin acids including oil rosin acids, including abietic acid, dehydroabietic acid and palustrie acid [see e.g. table 3 sample Hxs].

As for claim 5, the tall oil sample Hxs of MAGEE et al. has pimaric acid and 8-15-pimaradienioc acid [see e.g. table 3 sample Hxs]. Examiner has interpreted 8-15-pimaradienioc acid to be equivalent to 8-15 pimaric acid.

As for claim 6, the fatty acids of MAGEE et al. are produced from tall oil [see e.g. abstract and 1st paragraph]. Tall oil is produced from trees which are vegetable matter.

As for claim 7, MAGEE et al. teaches that the tall oils contain oleic acid which is an unsaturated fatty acid [see e.g. Table 2].

As for claim 8, MAGEE et al. teaches that the tall oils contain oleic acid, linoleic acid and 18:3 fatty acid [see e.g. Table 2, 18:3 fatty acid is pinoleic acid]

As for claim 9, MAGEE et al. discloses, a conjugated fatty acid 18:2 (9,11 ct), and a cyclic fatty acid, pimaric acid [see e.g. Table 2, since the double bonds of the 18:2 fatty acid alternate carbons, it is a conjugated fatty acid].

As for claim 13 and 14, MAGEE et al. discloses multiple mixtures of distilled tall oils which contain fractions of fatty acids and rosin acids [see e.g. Abstract and 1st paragraph].

As for claim 15, MAGEE et al. discloses fatty acids with two unsaturated bonds and three unsaturated bonds and 20 carbon atoms [see e.g. Table 3 C20:2 and C20:3]. MAGEE et al. does not explicitly disclose the location of the unsaturated bonds on the 20 carbon chain fatty acids. Since the fatty acids taught by MAGEE et al. are produced in tall oil as are the fatty acids the instant application it is the examiners position that the C20 fatty acids of MAGEE et al. would include at least some fatty acids with the bond location of 5,11,14-C20-3 and 11,14-C20:2. Please see MPEP 2112.01.

As for claim 16, MAGEE et al. discloses tall oil fatty acids, tall oil rosin, and other distillation cuts [see e.g. Abstract and 1st paragraph].

13. Claim 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by *Tall Oil Fatty acids and Relative Substances* by Pine Chemical Association, or PCA.

PCA teaches monomer fatty acids [see e.g. Table 4] that contain less than 1% saponifiable material. Monomer fatty acids are produced as side products from the dimerization reaction (*fatty acids comprise the monomer part produced during dimerization of fatty acids* [see e.g. pg. 10]).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claim 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Composition of American Distilled Tall Oils* by MAGEE et al. as applied to claims 1-9 and 13-16 above, in view of *Tall Oil Fatty acids and Relative Substances* by Pine Chemical Association, or PCA.

17. As for claim 17 and 20, MAGEE et al. teaches that various distilled tall oils which contain fatty acids and rosin acids which are able to remove extractives during pulp production [see e.g. Table 1]. MAGEE et al. does not teach that distilled fatty acids are converted into salts of the fatty acids/rosin acids.

PCA teaches that tall oil fatty acids salts are used as surfactants (also known as soaps) [pg. 3] and discloses the sodium salts of said fatty acids [pg. 5]. PCA further teaches that the soap is made by reacting it with the appropriate base [pg. 5]. The use of sodium hydroxide as a

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base would be obvious to a person of ordinary skill in the art furthermore the use of sodium hydroxide is an optional step since the use of sodium hydroxide was recited after the term ‘if desired’. At the time of the invention it would have been obvious to a person of ordinary skill in the art to convert tall oil product fatty acids in fatty acid salts to convert them into surfactants. A person of ordinary skill in the art would be motivated to convert such an acid because a surfactant would be more easily dissolvable in a pulping digester.

18. Claim 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Composition of American Distilled Tall Oils* by MAGEE et al. in view of *Tall Oil Fatty acids and Relative Substances* by Pine Chemical Association, or PCA as applied to claim 17 and 20 above, and further in view of U.S. Patent 7,255,873 NAKATA, henceforth referred to as NAKATA.

Tall Oil Fatty acid and Relative Substances does not teach how the fatty acids are made into fatty acid salts other than reacting them with a base. NAKATA teaches a method for making fatty acids into fatty acid salts. It teaches that the fatty acid reaction zone is 80 –200 degrees C [see e.g. column 3 line 18-19] which overlaps with the instant claim of 100 deg C. NAKATA further teaches that the process is continuous [see e.g. abstract]. At the time of invention it would have been obvious to a person of ordinary skill in the art to produce the fatty acid salts of PCA with a method such as NAKATA. A person of ordinary skill in the art would be motivated to use the process of NAKATA on the fatty acid of PCA because NAKATA suggests that the process is useful on multiple fatty acids compositions including those with linoleic and oleic acid both of which are claimed as important acids of the instant invention.

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19. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tall Oil Fatty acids and Relative Substances* by Pine Chemical Association, or PCA as applied to claims 1 and 10 above.

PCA teaches monomer fatty acids [see e.g. Table 4] that contain less than 1% saponifiable material. PCA further teaches about 54% (examiner has taken the difference in other acids to be caused by the low amount of unsaponifiables thus making the prior art Monomer acids more pure. Furthermore the other acids are not the active ingredients and examiner has taken the difference to be unsubstantial). PCA also discloses 12% oleic acid which examiner has taken to be 'about 19% oleic acid' and further discloses 28% branched C18 acids. The instant claim discloses between 27% and 31% branched C18 acids with approximately 50% being from branched oleic and 50% being branched stearic acid. It is the examiners position that since the prior art contains the same amount of branched fatty acids as the instant claims and that the fatty acids are produced in the same way as by-products of dimerization that the prior art would obviously contain about 50% branched stearic to branched oleic acids. \

Conclusions

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Calandra whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Friday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barbara Gilliam can be reached on (571) 272-1330. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJC

/Barbara L. Gilliam/

Supervisory Patent Examiner, Art Unit 4128